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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,166	01/27/2006	Shinichi Nakamura	03500103118	2518
5514 7590 07/26/2007 FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			EXAMINER YOUNG, SHAWQUIA	
			ART UNIT 1626	PAPER NUMBER
			MAIL DATE 07/26/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/566,166

Applicant(s)

NAKAMURA, SHINICHI

Examiner

Shawquia Young

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-18 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

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### **DETAILED ACTION**

Claims 1-18 are currently pending in this application.

#### ***Election/Restrictions***

Restriction is required under 35 U.S.C. 121 and 372.

#### ***Lack of Unity Requirement***

Claims 1-18 are drawn to more than one inventive concept (as defined by PCT Rule 13), and accordingly, a restriction is required according to the provision of PCT Rule 13.2.

PCT Rule 13.2 states that the international application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept (requirement of unity of invention).

PCT Rule 13.2 states unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features.

Annex B, Part 1 (b), provides that "special technical features" mean those technical features, which, as a whole, define a contribution over the prior art.

Annex B, Part 1 (e), provides combinations of different categories of claims and states:

"The method for determining unity of invention under Rule 13 shall be construed as permitting, in particular, the inclusion of any one of the following combinations of claims of different categories in the same international application:

- (i) in addition to an independent claim for a given product, an independent claims for a process specially adapted for the manufacture of the said product, and an independent claim for use of the said product, or

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(ii) in addition to an independent claim for a given process, an independent claim for an apparatus or means specially designed for carrying out the said process, or

(iii) in addition to an independent claim for a given product, and independent claim for a process specially adapted for the manufacture of the said product, and an independent claim for an apparatus or means specially designed for carrying out the said process,..."

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Due to the numerous variables in the claims, e.g. **R<sub>1</sub>**, **R<sub>2</sub>**, **R<sub>3</sub>**, **R<sub>4</sub>**, **A<sub>1</sub>**, **A<sub>2</sub>**, **A<sub>3</sub>**, **A<sub>4</sub>**, **m**, **X**, **Y**, **Z**, **L** etc. and their widely divergent meanings, a precise listing of inventive groups cannot be made. ***The following groups are exemplary:***

**Group I** claim(s) 1-5 (in part), are drawn to a compound of formula (VII) wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20 carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is a single bond; classified in various subclasses in class 549.

**Group II** claim(s) 1-5 (in part), are drawn to a compound of formula (VII) wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20 carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is an alkylene group; classified in various subclasses in class 549..

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**Group III** claim(s) 1-5 (in part), are drawn to a compound of formula (VII)

wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20 carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is a  $-(CH=CH)_r-$  group; classified in various subclasses in class 549.

**Group IV** claim(s) 1-5 (in part), are drawn to a compound of formula (VII)

wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20 carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is thiophene; classified in various subclasses in class 549.

**Group V** claim(s) 1-5 (in part), are drawn to a compound of formula (VII)

wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20 carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is furan; classified in various subclasses in class 549.

**Group VI** claim(s) 1-5 (in part), are drawn to a compound of formula (VII)

wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20

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carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is benzene; classified in various subclasses in class 549.

**Group VII** claim(s) 6-9 (in part), are drawn to a conductive organic thin film containing a compound of formula (VII) wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20 carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is a single bond; classified in various subclasses in class 549.

**Group VIII** claim(s) 6-9 (in part), are drawn to a conductive organic thin film containing a compound of formula (VII) wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20 carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is an alkylene group; classified in various subclasses in class 549..

**Group IX** claim(s) 6-9 (in part), are drawn to a conductive organic thin film containing a compound of formula (VII) wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20 carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is a  $-(CH=CH)_r-$  group; classified in various subclasses in class 549.

**Group X** claim(s) 6-9 (in part), are drawn to a conductive organic thin film containing a compound of formula (VII) wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or

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a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20 carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is thiophene; classified in various subclasses in class 549.

**Group XI** claim(s) 6-9 (in part), are drawn to a conductive organic thin film containing a compound of formula (VII) wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20 carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is furan; classified in various subclasses in class 549.

**Group XII** claim(s) 6-9 (in part), are drawn to a conductive organic thin film containing a compound of formula (VII) wherein: **R<sub>1</sub>** and **R<sub>2</sub>** are respectively hydrogen or a linear cyclic, or branched alkyl group of 1 to 20 carbon atoms, at least one of **R<sub>1</sub>** and **R<sub>2</sub>** being not hydrogen; **R<sub>3</sub>** and **R<sub>4</sub>** are respectively hydrogen or a linear, cyclic or branched perfluoroalkyl group of 1 to 20 carbon atoms, at least one of **R<sub>3</sub>** and **R<sub>4</sub>** being not hydrogen; **A<sub>2</sub>** is benzene; classified in various subclasses in class 549.

**Group XIII** claim(s) 10-18 (in part), are drawn to a field effect type organic transistor classified in various subclasses in class.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted. Again, **this list is not exhausted**, as it would be impossible under the time constraints due to the sheer volume of subject matter instantly claimed. Therefore, applicant may choose to elect a

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single invention by identifying another specific embodiment not listed in the exemplary groups of the invention and examiner will endeavor to group the same. **If applicant is unable to elect a single invention, applicant may instead choose to elect a specific compound and examiner will attempt to group it.** The claims herein lack unity of invention under PCT Rule 13.1 and 13.2 since the compounds defined in the claims lack a significant structural element qualifying as the special technical feature that defines a contribution over the prior art (See, Pilston, et al., for example). The compounds claimed contain one or more thiophene rings, which does not define a contribution over the prior art. The compounds vary in classification and when taken as a whole result in vastly different compounds. Accordingly, the vastness of the claimed subject matter and the complications in understanding the claimed subject matter imposes a burden on any examination of the claimed subject matter.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

#### ***Telephone Inquiry***

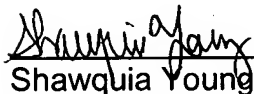
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawquia Young whose telephone number is 571-272-9043. The examiner can normally be reached on 6:00 AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



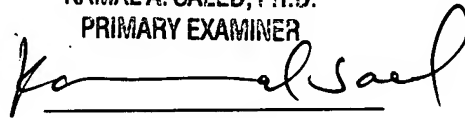
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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